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MANUAL SERIES

MANUAL FOR PROCESSING CURRENT DATA

PART I
INSTRUCTIONS FOR CODING AND KEYPUNCHING DRIFT BOTTLE DATA

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(PROVISIONAL)

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FOREWORD

During the December 1963 meeting of the Committee for the Scientific Exploration of the Atlantic Shelf (SEAS), it was suggested that a storage and retrieval system for Drift Bottle Data be set up at the National Oceanographic Data Center (NODC). The suggestion received the full support of the SEAS Committee.

For the past several months, personnel at the NODC, under the guidance of Dean Bumpus of Woods Hole Oceanographic Institution and John Norcross of the Virginia Institute of Marine Science, have developed a provisional system for the storage and retrieval of drift bottle data.

This provisional publication provides instructions for reporting reduced release and release-recovery drift bottle data either on the NODC coding form or punch card.

This Center welcomes comments and suggestions regarding this provisional system as well as the receipt of drift bottle data prepared utilizing the NODC coding forms or NODC punch card. Reduced drift bottle data reported on other formats are acceptable if the data and units are compatible with those of this system.

W. C. JACOBS
Director
National Oceanographic Data Center

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INTRODUCTION

This manual provides instructions for coding and keypunching drift bottle data on a standard format. In these instructions, the term "drift bottle" includes ballasted and unballasted drift bottles, sea bed drifters, drift cards, and similar devices. The term does not include monitored drifting devices such as Swallow Floats.

The provisional Drift Bottle Coding Form (Appendix I) is designed to accommodate both release data and release-recovery data. If used for reporting release data only, the portion of the coding form labeled RECOVERY INFORMATION is left blank. If used for reporting release-recovery data, both the recovery information and the original release data must be entered on the coding form.

The card used by the NODC in this system is the standard 80-column punch card. A single format card is used to record both the release and release-recovery data.

Drift bottle data will be available from the NODC on magnetic tape, punch cards, or as listings. Both the release data and the release-recovery data for each type of bottle are sorted geographically on the release position in the following sequence: Marsden square, 1-degree square, 1/4-degree square, year, month, day, institution, and ship (platform). By special request, these data may also be obtained sorted geographically on recovery position.

GENERAL

In most instances, the fields of the coding form and punch card labeled Bearing, Nautical Miles Drifted, Days Adrift, and Speed may, at the option of the originator, be left blank. If values for these fields are not reported, they will be computed at the NODC. However, when the straight line between release point and recovery point passes over land, the originator must determine and code Bearing, Nautical Miles Drifted, Days Adrift, and Speed (Columns 63-75). The definitions of these terms, as related to the system, are as follows:

Bearing - The direction of a straight line drawn (on Mercator projection) from the release position to the recovery position, expressed as an angular distance from 000° clockwise through 360°.

Nautical Miles Drifted - The straight line distance, in nautical miles, between the release and recovery positions. (This distance may or may not represent the actual distance traveled by the bottle; it does, however, provide a "distance" value for the computation of speed.)

Days Adrift - The time elapsed (usually in whole days) between the time of release and the time of recovery of a bottle. (This time entry may or may not represent the actual travel time between release and recovery positions; it does, however, provide a time value for the computation of speed.)

Speed - The value obtained by dividing the entry for "Nautical Miles Drifted" by the entry for "Days Adrift." The speed thus computed may or may not be related to the actual speed of the bottle.

Release data from a lightship which routinely makes daily releases may be coded as a single release report for the entire month. In this case, asterisks are entered in the DAY field (Columns 20-21), and the entry in the NUMBER OF BOTTLES RELEASED field (Columns 39-40) represents the total number of bottles released for the month.

Releases of different bottle types at the same location and at the same time constitute separate releases and must be recorded as such on the coding form.

CODING THE RELEASE INFORMATION

Enter the Cruise and/or Project Number, the complete name of the institution sponsoring the research, and the name of the platform from which the bottles were released, in the space provided in the upper right corner of the coding form.

Columns 1-7 — NODC REFERENCE NUMBER AND CONSECUTIVE NUMBER

Leave blank. These columns will be coded at the NODC.

Columns 8-9 — COUNTRY CODE

Enter the country code as given in Table I.

Columns 10-11 — INSTITUTION CODE

Enter the institution code as given in Table II. The institution code should reflect the institution sponsoring the research.

Column 12 — MODE OF RELEASE

Enter the mode of release code as given in Table III.

Columns 13-15 — SHIP CODE

Leave blank. These columns will be coded at the NODC.

Columns 16-17 — YEAR

Enter tens and units digits of year.

Columns 18-19 — MONTH

Enter the month by using the numerals 01 (January) through 12 (December).

Columns 20-21 DAY

Enter the day of month by using the numerals 01 through 31. When day of release is doubtful, leave blank.

Columns 22-23 TIME

Enter local standard time of release to nearest hour by using the numerals 00 through 24.

Columns 24-32 LATITUDE AND LONGITUDE OF RELEASE

Enter degrees and whole minutes of latitude and longitude in Columns 24-27 and 28-32, respectively. Enter N or S for northern or southern hemisphere, and E or W for eastern or western hemisphere, in the space provided following Columns 27 and 32, respectively.

Columns 33-36 RELEASE MARSDEN SQUARE AND 1/4° SQUARE

Leave blank. This information will be computed and punched into the card at the NODC.

Columns 37-38 DISTANCE FROM SHORE

Enter the shortest distance from the release position to shore in whole nautical miles. Enter numerals 99 in these columns to indicate that the distance from shore is 99 nautical miles or greater. If stations are relatively close to shore, distance may be reported to tenths of a nautical mile by entering the tenths digit in Column 38; enter a red dash over the tenths numeral in Column 38. Prefix a zero to fill the field when necessary.

Columns 39-40 NUMBER OF BOTTLES RELEASED

Enter the number of bottles for each bottle type released at the time recorded in Columns 22-23. Prefix a zero to fill the field.

Column 41 BOTTLE TYPE

Enter the bottle type according to the code in Table IV.

Column 76 CARD TYPE

Enter the numeral 1 in Column 76.

Columns 77-78

Columns 77-78 are left blank on the coding form.

Columns 79-80 DECK NUMBER

No entry is required on the coding form; however, the numeral 10 must be entered in these columns of the punch card.

CODING THE RELEASE-RECOVERY INFORMATION

Enter the Cruise and/or Project Number, the complete name of the institution sponsoring the research, and the name of the platform from which the bottles were released, in the space provided in the upper right corner of the coding form.

Columns 1-7 — NODC REFERENCE NUMBER AND CONSECUTIVE NUMBER

Leave blank. These columns will be coded at the NODC.

Columns 8-41 — RELEASE INFORMATION

When release-recovery data are reported, the original release information for the recovered bottle must be included. Code these columns as previously instructed.

Columns 42-46 — BOTTLE NUMBER

Enter the identification number of the recovered bottle. Prefix zeros to fill the field.

Columns 47-48 — YEAR

Enter tens and units digits of year of recovery.

Columns 49-50 — MONTH

Enter the month by using the numerals 01 (January) through 12 (December). If month of recovery is considered to be doubtful, enter a red dash over the numeral in Column 49.

Columns 51-52 — DAY

Enter the day of month by using the numerals 01 through 31. If day of recovery is considered to be doubtful, enter a red dash over the numeral in Column 51.

Columns 53-61 LATITUDE AND LONGITUDE OF RECOVERY

Enter degrees and whole minutes of latitude and longitude in Columns 53-56 and 57-61, respectively. Enter N or S for northern or southern hemisphere, and E or W for eastern or western hemisphere, in the space provided following Columns 56 and 61, respectively. If the position is doubtful, estimate the latitude and/or longitude to the nearest 10 minutes; enter the tens digit in Columns 55 and/or 60, and leave Columns 56 and 61 blank.

Column 62 WHERE RECOVERED

Indicate where the bottle was recovered by entering the letter A for ashore, B for bottom, F for floating, or E when in an estuary.

Columns 63-65 BEARING

Enter the direction in degrees (measured clockwise from 000°) of a line drawn (on Mercator projection) from the release position to the recovery position. If, in the opinion of the originator, the route of the drift bottle was circuitous, enter the letters CIR in Columns 63-65. If the recovery position is in an estuary (E in Column 62),the bearing reported should represent the direction of a line drawn from the release position to the point of turning into the estuary.

Columns 66-69 NAUTICAL MILES DRIFTED

Enter the straight line distance (in whole nautical miles) between the release and recovery positions so that the unit digit is entered in Column 69. Distance may be reported to tenths of a nautical mile by entering the tenths digit in Column 69 and a red dash over the tenths digit. If the letter E appears in Column 62 or the letters CIR appear in Columns 63-65, inferred distances rather than straight-line distances should be coded.

Columns 70-72 DAYS ADRIFT

Enter the number of days from date of release to date of recovery in whole days so that the units digit is entered in Column 72. If number of days adrift is greater than 999, enter the thousands, hundreds, and tens digits in Columns 70-72 and a red dash over the numeral in Column 70. Prefix zeros to fill the field. Time adrift may be reported in hours and tenths of an hour; enter the whole hours in Columns 70 and 71 and the tenths digit in Column 72. When hours are reported, enter a red dash in Column 72. Prefix zeros to fill the field. Do not enter a zero in Column 72 if tenths are not reported.

Columns 73-75 SPEED

Enter the speed in nautical miles per day to tenths of a nautical mile. Prefix zeros to fill the field. Speed in knots to tenth of a knot may be reported by entering whole knots in Columns 73 and 74 and the tenths digit in Column 75. If knots are reported, enter a red dash in Column 75. Do not enter a zero in Column 75 if tenths are not reported.

Column 76 CARD TYPE

Enter the numeral 2 in Column 76.

Columns 77-78

Columns 77-78 are left blank on the coding form.

Columns 79-80 DECK NUMBER

No entry is required on the coding form; however, the numeral 10 must be entered in these columns of the punch card.

KEYPUNCHING INSTRUCTIONS FOR THE DRIFT BOTTLE CODING FORM

The Drift Bottle Coding Form is designed so that most of the numeric and alphabetic entries can be punched directly into the corresponding columns of the punch card. The correct column entries for certain overpunches, however, may not be readily determined from the coding form. A red dash, entered in a specific column of the coding form, generally indicates that the same column on the punch card should receive an x (or eleven) overpunch.

Entries on the coding form which require x overpunches on the punch card are as follows:

Entry on Coding Form	Explanation	Entry on Punch Card
S after Column 27	South latitude	x overpunch Column 27
E after Column 32	East longitude	x overpunch Column 32
Red dash in Column 38	Distance from shore reported to tenths of a nautical mile	x overpunch Column 38
Red dash in Column 49	Recovery month doubtful	x overpunch Column 49
Red dash in Column 51	Recovery day doubtful	x overpunch Column 51
S after Column 56	South latitude	x overpunch Column 56
E after Column 61	East longitude	x overpunch Column 61
Red dash in Column 69	Nautical miles drifted reported to tenths of a nautical mile	x overpunch Column 69
Red dash in Column 70	Days adrift over 999	x overpunch Column 70
Red dash in Column 72	Hours adrift	x overpunch Column 72
Red dash in Column 75	Speed in knots	x overpunch Column 75

When one or several of the items contained in Columns 66-75 (bearing, nautical miles drifted, days adrift, and speed) are omitted, the information for all these items will be computed at the NODC. To identify these NODC-computed values, an x overpunch, generated by the computer, is automatically entered in Column 78 of the release-recovery card.

TABLE I [1/]

COUNTRY CODE

Country	Code
Australia	09
Canada	18
Denmark	26
Finland	34
France	35
Iceland	46
Japan	49
Netherlands	64
New Zealand	61
Union of South Africa	91
Union of Soviet Socialists Republics	90
United States of America	31

1/This table will be expanded as the need arises.

TABLE II

INSTITUTION CODE

Institution	Code
Bingham Oceanographic Laboratory, Yale University	18
California State Department of Fish and Game, Marine Resources Branch	17
California Maritime Academy	13
Chesapeake Bay Institute, The Johns Hopkins University	21
Chesapeake Biological Laboratory, University of Maryland	52
Columbia University, Hudson Laboratories	26
Columbia University, Lamont Geological Observatory	12
Duke University, Marine Laboratory	55
Florida State Board of Conservation, Marine Laboratory	57
Gulf Coast Research Laboratory	32
Hancock Foundation, University of Southern California	19
Hopkins Marine Station, Stanford University	16
Hudson Laboratories, Columbia University	26
Lamont Geological Observatory	12
National Science Foundation	29
Narragansett Marine Laboratory, University of Rhode Island	30
Oregon Fish Commission Research Laboratories	23
Oregon State University (College)	03
Pacific Marine Station, University (College) of the Pacific	14
Scripps Institution of Oceanography, University of California (Division of War Research)	01
Stanford University, Hopkins Marine Station	16
State University of New York, Maritime College	27
Texas A & M University, Department of Oceanography and Meteorology	24
The Johns Hopkins University, Chesapeake Bay Institute	21
University of California, Scripps Institution of Oceanography	01
University of Florida, Marine Laboratory	06
University of Maryland, Chesapeake Biological Laboratory	52
University of Miami, Institute of Marine Sciences	25
University of Rhode Island, Narragansett Marine Laboratory	30
University of Southern California, Hancock Foundation	19
University of the Pacific, Pacific Marine Station	14
University of Washington, Department of Oceanography	09
U. S. Coast and Geodetic Survey	10
U. S. Coast Guard	06
U. S. Department of the Interior, Fish and Wildlife Service	11
Bureau of Commercial Fisheries, Biological Laboratories	
Auke Bay, Alaska	94
Beaufort, North Carolina	95
Boothbay Harbor, Maine	96
Brunswick, Georgia	97
Galveston, Texas	98
Gulf Breeze, Florida	99
Honolulu, Hawaii	A1
La Jolla, California	A2

TABLE II (CONT'D)

Institution	Code
U. S. Department of the Interior, Fish and Wildlife Service	
Bureau of Commercial Fisheries, Biological Laboratories (Cont'd)	
Miami, Florida	A4
Milford, Connecticut	A5
Oxford, Maryland	A6
San Diego, California	A7
Seattle, Washington	A8
Seattle, Washington (Marine Mammal Research)	A3
Stanford, California	A9
Tiburon, California (Tiburon Marine Laboratory)	31
Washington, D. C	B1
Woods Hole, Massachusetts	B2
Bureau of Sport Fisheries	
Sandy Hook Marine Laboratory	B4
U. S. Naval Oceanographic Office (NAVOCEANO)	07
U. S. Naval Ordnance Laboratory (NOL)	22
U. S. Naval Underwater Ordnance Station (NUOS)	15
U. S. Naval Underwater Sound Laboratory (USNUSL)	08
U. S. Navy Electronics Laboratory (NEL)	20
U. S. Navy, Scientific	04
U. S. Navy, Ships of Opportunity	05
Virginia Institute of Marine Science	28
Woods Hole Oceanographic Institution (WHOI)	02
Yale University, Bingham Oceanographic Laboratory	18

TABLE III

MODE OF RELEASE CODE

Mode	Code
Surface	1
Aerial	2
Subsurface	3
Shore	4

TABLE IV [1]

BOTTLE TYPE CODE

Bottle Type	Code
Ballasted bottle [2]	S
Unballasted Bottle [2]	N
Sea bed drifter	B
Drift card (or envelope)	C
Drogue bottle	D
Drogue lost	L

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[1] This table will be expanded as the need arises.

[2] Bottles floating at an angle equal to or greater than 45 degrees from the horizontal position are designated as "ballasted;" bottles floating at an angle less than 45 degrees from the horizontal position are designated as "unballasted."

CRUISE AND PROJECT NO.
INSTITUTE
NAME OF PLATFORM

DRIFT BOTTLE CODING FORM

(Provisional)

NATIONAL OCEANOGRAPHIC DATA CENTER
WASHINGTON, D. C. 20390

| NODC | | | | | | | RELEASE INFORMATION | | | | | | |